Income distribution across ethnic groups in Malaysia

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Chapter 2

Construction of a New Social Accounting Matrix and Analysis of Income Distribution[1]

2.1 Introduction

A social accounting matrix (SAM) is a framework that is widely used for the analysis of income distribution in a socio-economic system. It is related to the National Accounts, but typically incorporates whatever degree of detail is required for special interests. The principal goal in constructing a SAM is to integrate elements of the income distribution into a single coherent accounting framework. In the past, several SAMs have been constructed for developing countries, aiming at a quantitative approach to combating poverty and reducing income inequality. See for example Pyatt and Roe (1977) for Sri Lanka, and Pyatt and Round (1984) for Malaysia, while recent work includes Tarp et al. (2003) for Vietnam and Yusuf (2006) for Indonesia. The SAM for Malaysia, which is constructed in the present study, is designed to serve as a comprehensive data framework for the quantitative analysis of the income distribution across ethnic groups, both in the rural and in the urban areas[2].

[1] A shorter version of this chapter is published in *Asian Economic Journal*, volume 28, page 259-278, 2014 (joint with Erik Dietzenbacher and Bart Los).

[2] The major ethnic groups are: the Malay (indigenous, 61% of the population in 2005), the Chinese (26%), the Indian (8%) and a group of other ethnic minorities (5%).

The issue of (in)equality in income distribution has been subject of discussion in Malaysia in the past four decades. The ethnic riots in May 1969 highlighted the dangers that are inherent in a multi-racial society when ethnic prejudices are exacerbated by economic disparities. In fact, it has been recognized that income inequality is the crucial factor leading to social conflicts and political instability (see Nagel, 1974, Muller, 1988a;b, Thorbecke and Charumilind, 2002). Consequently, the economic development policies in Malaysia have been shaped by the government since 1970. The commitment of the government is to ensure that benefits of economic growth and development are equally shared among all Malaysians.

The growth and structural transformation of the Malaysian economy in the period 1970-1990 narrowed the gap in the per capita income between the three major ethnic groups. Setting the income of the Malays at 100, the (index for the) income of the Chinese decreased from 229 to 174, and of the Indians from 177 to 129 (Economic Planning Unit, various years). This trend of reducing the inequality in income distribution has come to a halt, despite the fact that the country enjoyed a higher economic growth than in the decades before.[3] For instance, in 2002, the per capita income of the Chinese was indexed at 180 and that of the Indians at 128 (setting the per capita income of the Malays at 100 again). This suggests that the recent growth and development has not automatically led to further improvements in terms of income distribution. In the literature, it has long been recognized that promoting high growth rates and rapid industrialization in developing economies, may shift the income distribution in favor of the high-income group, while it is detrimental for the low-income group (see Adelman, 1975).

Under the current Ninth Malaysia Plan (2006-2010), the government continues to pursue a development policy that aims at more economic growth combined with a more equal distribution of income across ethnic groups. In order to achieve this goal, distributional policies need to be carefully designed and monitored. This requires a comprehensive data system that integrates the production structure and the social accounts. A social accounting matrix (SAM) is such a framework and the present

[3] The economy grew annually with an average rate of 6.7% in the period 1970-1990 and with 7.0% in the period 1991-2002 (Department of Statistics Malaysia, 2004).

study constructs a SAM for Malaysia with special focus on the generation and distribution of income across ethnic groups, both in rural and in urban areas.

The Malaysian SAM is constructed by applying a top-down approach, which seems appropriate in the current situation where data coverage is incomplete due to limited resources. Our starting point is an aggregate SAM which is compiled from aggregate national statistics. Next, the figures in this aggregate SAM are taken as given (or known exactly). Consequently, the estimates for the disaggregated accounts of each sector must be in line with the aggregate SAM in order to arrive at a consistent SAM. Data from multi-purpose surveys such as a household income survey and a household expenditure survey are used for the construction (and estimation) of the disaggregated SAM accounts. We will use the SAM to analyze the distribution of income across ethnic groups. Linking the data on income to data (from other sources) on population and employment, for example, allows us to search for the causes of the unequal income distribution.

The plan of the chapter is as follows. Section 2.2 provides a general outline of our SAM for Malaysia in 2000, gives the definition of the household groups in the household accounts, and explains the other accounts in some detail. Section 2.3 describes the top-down approach that we have used and discusses the reasons for choosing the top-down approach instead of the bottom-up approach. The basic data requirements and the major constraints in the process of assembling the accounts are discussed in Section 2.4. The analysis of the distribution of income across ethnic groups derived from the SAM is presented in Section 2.5. Given the availability of a SAM for Malaysia in 1970, we discuss the overall changes in the income distribution between 1970 and 2000 in Section 2.6. Finally, concluding remarks and some implications are given in Section 2.7.

2.2 Structure of the SAM for Malaysia, 2000

The first SAM for Malaysia was developed for 1970 in a collaboration of the Malaysian government with the World Bank (see Pyatt and Round, 1984). A distinction was made between Peninsular Malaysia in the west and the states of Sabah and Sarawak in the east (see Chander et al., 1980, and Pyatt and Round, 1984, for a more detailed description). In terms of the design and construction methodology, the present SAM shows a certain similarity to the 1970 SAM. However, there are also several distinctive features. First, instead of distinguishing between West and East Malaysia, the present study distinguishes between urban and rural areas. Although most urban areas are in West Malaysia, while East Malaysia is essentially rural, there are ample rural areas in West Malaysia.[4] Second, the classifications used in the production, the household and the factors of production accounts are at a much more disaggregated level. Third, in comparison to the 1970 SAM, we have been able to use underlying data that are better in terms of quantity and quality. For example, the 2000 SAM distinguishes three levels of education, introduces the group of non-citizens, and includes 92 (instead of 59) production sectors.

2.2.1 General structure

A schematic representation of the accounting structure in the 2000 Malaysian SAM is given in Table 2.1. Following the conventional approach, receipts are recorded in row *i* for actor *i* (e.g. a group of rural households, one of the production activities, or owners of capital). The actor's outlays are given as expenditures in column *j*. Corresponding row and column totals of the matrix must be equal to each other, consistent with the bookkeeping idea that the sum of receipts (incomes) equals the sum of outlays (expenditures) for each account. In the present SAM, nine groups of accounts are distinguished, the first three of which are further disaggregated into 92, 27 and 9 sub-accounts, respectively.

The first account is for the production activities and their income stems from the sales of commodities which are domestically produced. As shown in the first row of

[4] For the 1970 SAM, disaggregation into rural and urban areas was only possible for West Malaysia.

Table 2.1, they include intermediate demand from other production activities in cell (1,1), consumption by households (1,3) and government (1,5), investments (1,6), and exports (1,7). The expenditures comprise payments for domestically produced intermediate inputs (1,1), value added (2,1) and imported inputs (7,1). The indirect taxes on the expenditures for inputs (no matter whether domestically produced or imported) are shown separately in cell (9,1).

The second account is for the factors of production, which comprises various types of labor and capital. The factors receive income from domestic production activities as well as from abroad. The transactions are recorded in cells (2,1) and (2,7) of Table 2.1. The expenditures of the factors comprise three elements. First, labor pays the compensation of employees to the households.[5] Second, capital pays the operating surplus partly to the households and partly to the companies.[6] Third, part of the factor incomes are paid abroad. The corresponding transactions are recorded in cells (3,2), (4,2) and (7,2).

Conventional practice is to split the accounts for institutions into three categories: households, companies and the government. The primary income for households and companies are the factor incomes. Factor incomes received by households include the compensation of employees and unincorporated business profits (3,2), while companies receive corporate business profits (4,2). In addition, households receive the following secondary incomes: distributed profits from companies (3,4); current transfers from the government in the form of pensions and periodical payments (3,5); and social benefits from abroad (3,7). Similarly, secondary

[5] Compensation of employees includes remuneration (in cash or in kind) payable by the production activities to employees in return for work done during the accounting period. The components of compensation of employees comprise wages and salaries, allowances and other payments received in kind.

[6] The operating surplus measures the surplus accruing from production before taking account of any interest, rent or similar charges payable on financial or non-produced tangible assets borrowed or rented or owned by an enterprise (i.e. a company) or an unincorporated enterprise (i.e. a household). In our study, households receive part of the operating surplus in the form of unincorporated business profits (including rent, housing and mixed incomes) while the part that companies receive are the corporate business profits.

incomes that companies receive are: transfer payments from the government, i.e. current transfers in (4,5); and from abroad, i.e. non-factor incomes from abroad in (4,7). The government income (revenue) is mainly derived from tax revenues. Direct taxes are: income taxes paid by households (5,3); and corporate taxes paid by companies (5,4). The indirect tax receipts in (5,9) are included as a government receipt from the separate indirect tax account. The government also receives current transfers from abroad (5,7) in the form of non-factor incomes.

The next account is a consolidation of the capital accounts. It shows that capital in the economy is built up of savings by the three major domestic institutions: household savings (6,3); corporate savings for the companies (6,4); and government savings (6,5). Separate current and capital accounts are distinguished for the rest of the world (RoW). The expenditures of RoW, such as the payments for the exports of Malaysian goods and services, are listed in column 7 with the current account for RoW. The income received by RoW comprises (Malaysian) payments for imports of goods and services as inputs into the production process (7,1), or as final goods for consumption by households (7,3) or by the government (7,5), or as capital goods for investments (7,6). In addition there are the factor (7,2) and the non-factor incomes paid abroad (7,4). The Malaysian balance of payment of the current account is shown as a payment of the capital account of the RoW to the current account of the RoW (7,8). Note that if Malaysian "exports" are larger than its "imports" the balance of payments will show a surplus. This implies that its counterbalance, i.e. Malaysian net investments abroad in (8,6), is positive. The last account in the Malaysian SAM includes the indirect taxes. These are commodity taxes (9,1), sales taxes (9,3), taxes on imported capital goods (9,6), and a levy on exports (9,7). The total receipt of indirect taxes is part of the government's income (5,9).

Table 2.1 Schematic SAM for Malaysia, 2000

				Expenditures									
				1	2	3	4	5	6	7	8	9	
				Production activities	Factors of production	Institutions			Consolidated capital	Rest of the world (RoW)		Indirect taxes	Total
						Households	Companies	Government		Current	Capital		
				[92]	[27]	[9]	[1]	[1]	[1]	[1]	[1]	[1]	
Incomes	1	Production activities	[92]	Intermediate demands (1,1)		Consumption of domestic commodities (1,3)		Consumption of domestic commodities (1,5)	Investment expenditures on domestic commodities (1,6)	Exports (1,7)			Gross output (aggregate demand)
	2	Factors of production	[27]	Value added payments (2,1)						Factor incomes received from abroad (2,7)			Total factor incomes
	3	Institutions: Households	[9]		Compensation of employees and unincorporated business profits (3,2)		Distributed profits (3,4)	Pensions and periodical payments (3,5)		Social benefits received from abroad (3,7)			Total incomes households
	4	Institutions: Companies	[1]		Corporate business profits (4,2)			Current transfers (4,5)		Non-factor incomes from abroad (4,7)			Total incomes companies
	5	Institutions: Government	[1]			Income taxes (5,3)	Corporate taxes (5,4)			Non-factor incomes from abroad (5,7)		Indirect taxes (5,9)	Total government revenues
	6	Consolidated capital	[1]			Household savings (6,3)	Corporate savings (6,4)	Public savings (6,5)					Aggregate savings
	7	Rest of the world (RoW): Current	[1]	Imports of intermediate inputs (7,1)	Factor incomes paid abroad (7,2)	Consumption of imported commodities (7,3)	Non-factor incomes paid abroad (7,4)	Consumption of imported commodities (7,5)*	Imports of capital goods (7,6)		Balance of payment of current account (7,8)		Total exchange paid
	8	Rest of the world (RoW): Capital	[1]						Net investments abroad (8,6)				Total capital paid abroad
	9	Indirect taxes	[1]	Commodity taxes (9,1)		Sales taxes (9,3)			Taxes on imported capital goods (9,6)	Exports levy (9,7)			Total indirect taxes
				Gross input (total costs)	Total factor payments	Total expenditures households	Total expenditures companies	Total expenditures government	Aggregate investments	Total exchange earnings	Total capital received from abroad	Total indirect taxes	

Notes: *Non-factor incomes paid abroad by the government are included in the consumption of imported commodities. [ ] Indicates the number of sub-accounts for the corresponding account.

2.2.2 Disaggregation for Income Distribution Analysis

SAMs provide a flexible framework which allows users to choose an appropriate setup and level of detail of the accounts, depending on the topic of interest and the specific questions that are to be answered. For our purpose of studying income distribution, it seems crucial to have a detailed disaggregation of the household sector. Changes in production transmit to different households (via factor markets and distribution and redistribution channels) in a different way. In this study, nine categories of households are distinguished based on the citizenship status, ethnicity and geographical location.

The first distinction of households is made between citizens and non-citizens. It is important to distinguish between these two categories because, recently, the number of foreign workers has significantly influenced the composition of the domestic labor force. The registered growth of foreign workers in the period 2001-2005 was 18.8%, whereas the growth of local workers was only 1.5% (Economic Planning Unit, 2006). Most of the foreign workers in Malaysia are from Indonesia, Bangladesh and the Philippines, and are employed in plantations and farms, and various manufacturing sectors.

The households with a Malaysian citizenship are further disaggregated according to socio-economic characteristics rather than income levels (which is the common distinction). Pyatt and Thorbecke (1976) already suggested strongly to base household classifications on location, sociological considerations and wealth. In a pluralistic country like Malaysia, it is considered important to distinguish between the four major ethnic groups. These are Malays, Chinese, Indians and Other (comprising dozens of ethnic minority groups which are mostly located in East Malaysia, such as groups of Iban, Kadazan, Bajau, Murut, Suluk). This disaggregation is important, in particular from a policy perspective, because the recent development strategy of the government includes specific concerns for the standard of living among these socio-economic groups. Each of the four ethnic groups is further disaggregated according to geographical location, distinguishing between rural and urban areas. The geographical criterion is useful because the distinction between urban and rural citizens captures many aspects of duality. For example, households with otherwise similar

characteristics are quite likely to be paid different wages and generally exhibit a different socio-economic behavior (such as a different pattern of consumption expenditures). All in all, this leads to (2×4 + 1 =) nine different household groups.

In the accounts for the factors of production, a distinction is made between labor and capital. The criteria for classifying labor and households are inevitably inter-related given the fact that characteristics of individuals are the essential ingredients common to both sets of accounts. Therefore, the classification of labor types in the Malaysian SAM study is similar to the household classification (i.e. citizenship status, ethnicity and geographical location). In addition, the eight citizen groups are subdivided according to education level, i.e. low, medium, and high.[7] This distinction between education levels, which proxies skills, is relevant in explaining income differences (see e.g. Pieters, 2010). All in all, this leads to (2×4×3 + 1 =) 25 different labor types. The factor capital is split into two categories: unincorporated business profits (which go to households) and corporate business profits (which go to the companies).

For the production account (and its splitting up) of our SAM framework, we have used the 2000 input-output table (Department of Statistics Malaysia, 2005), which classifies the production activities into 92 sectors. The remaining six accounts in the SAM are all in an aggregate form. Therefore, taking together, the total amount of accounts in the SAM is 134 (= 27 + 92 + 9 + 6).

[7] Education levels are based on certificates obtained from school, college or university. Those who do not have any formal education or a primary school certificate are in the low education category, those with secondary school certificates (e.g. L.C.E., M.C.E. or H.S.C.) are in the medium education category, while those with at least a diploma or degree are in the high education category.

2.3 The Top-Down Approach

Essentially, two approaches have been applied by practitioners to build a SAM, i.e. the *top-down* and the *bottom-up* approach. The *top-down* approach starts by building a highly aggregated SAM, based on available information from the national statistics. Then, the data in the aggregate SAM are used as control values when estimating the details of the separate SAM accounts. In contrast, the *bottom-up* approach estimates the separate SAM accounts at a disaggregated level and obtains the aggregate level of an account by simple consolidation (i.e. summing up). Because 'control values' are absent in the bottom-up approach, substantial discrepancies may arise between the aggregate level (obtained after consolidation) and the official national statistics. In building their SAMs, Pyatt and Round (1984), Reinert and Roland-Holst (1992), and Roland-Holst and Sancho (1992) adopted the top-down approach, whereas Keuning and de Ruijter (1988) and Jabara et al. (1992) favored the bottom-up approach.

In our study, we have used the top-down approach for three reasons. First, the choice of technique for constructing a SAM, obviously depends on the availability of data. Of course, if abundant information from survey data (e.g. for households, other institutions, industries and companies) is available, the bottom-up approach is preferred over the top-down approach. Unfortunately, lack of data is a common constraint in most developing countries. Second, the top-down approach is cost-effective due to the fact that it only requires a relatively short period to construct a balanced SAM. This applies, even if we take into account that usually more time is required than anticipated because the raw data provided by authorities are typically not readily available in the formats that are needed. Third, the top-down approach yields a SAM that is (in its aggregated form) perfectly in line with the official statistics.

The starting point for applying the top-down approach is given by the 9×9 matrix in Table 2.2 which depicts the aggregate SAM. It was used as the baseline to estimate several individual accounts in more detail. This table provides a summary of the Malaysian economy in 2000 and is compiled on the basis of information that is publicly available. Table 2.2 distinguishes four quadrants. The north-west quadrant contains numbers, each of which is the aggregate (or consolidation) of a matrix M_{ij}. In

the same fashion, the north-east quadrant contains the aggregates of the column vectors C_{ij} and the south-west quadrant contains the aggregates of the row vectors R_{ij}. In the next step of the top-down approach, each of these aggregates was disaggregated into matrices and vectors. The south-east quadrant contains scalars S_{ij} that remained scalars, requiring no further disaggregation.

In estimating the elements of the matrices M_{ij} and the vectors C_{ij} and R_{ij}, the numbers in Table 2.2 were considered as fixed control values for their aggregates. For example, the estimates in the matrix M_{11} were obtained from the Malaysian input-output table and the aggregated intermediate deliveries are equal to the control value of 293.34 billion MR (Malaysian *Ringgit*), which also stems from the input-output table. In some cases, however, the estimates in the disaggregated accounts had to be adjusted so as to match the corresponding control value in order to yield a consistent SAM. That is, the aggregated value of the estimates had to be made equal to the control value. This applied, in particular, when handling the accounts for the factors of production and the households. The reason is that the estimates of the disaggregated accounts were obtained from multi-purpose surveys—such as the household income survey (HIS, see Department of Statistics Malaysia, 2001a) and the household expenditure survey (HES, see Department of Statistics Malaysia, 2000a;b)—which are not consistent with the control value. Clearly, this is a common problem when two or more different sources of data are combined in a single framework, such as a SAM.

Table 2.2 Aggregate SAM (control values) for Malaysia, 2000 (MR billion)

			1	2	3	4	5	6	7	8	9	
			Production activities	Factors of production	Institutions			Consolidated capital	RoW		Indirect taxes	Total
					Households	Companies	Government		Current	Capital		
1		Production activities	293.34 [M_{11}][1]		116.58 [M_{13}][1]		34.86 [C_{15}][1]	52.66 [C_{16}][1]	399.38 [C_{17}][1]			896.82
2		Factors of production	323.63 [M_{21}][1]						8.51 [C_{27}][3]			332.14
3	Institutions	Households		141.40 [M_{32}][1]		10.89 [C_{34}][2]	3.70 [C_{35}][4]		0.03 [C_{37}][5]			156.02
4	Institutions	Companies		153.93 [R_{42}][1]			1.94 [S_{45}][6]		2.66 [S_{47}][5]			158.53
5	Institutions	Government			9.05 [R_{53}][2]	20.00 [S_{54}][2]			0.49 [S_{57}][5]		21.16 [S_{59}][1]	50.70
6		Consolidated capital			2.43 [R_{63}][2]	117.25 [S_{64}][2]	9.26 [S_{65}][2]					128.94
7	RoW	Current	271.45 [R_{71}][1]	36.80 [R_{72}][3]	18.09 [R_{73}][5]	10.39 [S_{74}][5]	0.93 [S_{75}][5]	41.69 [S_{76}][1]		32.81 [S_{78}][6]		412.16
8	RoW	Capital						32.81 [S_{86}][6]				32.81
9		Indirect taxes	8.41 [R_{91}][1]		9.89 [R_{93}][1]			1.77 [S_{96}][1]	1.09 [S_{97}][1]			21.16
		Total	896.82	332.14	156.02	158.53	50.70	128.94	412.16	32.81	21.16	2,189.28

Notes: superscripts indicate the data sources: (1) Department of Statistics Malaysia (2005); (2) Department of Statistics Malaysia (2004); (3) Department of Statistics Malaysia (2002); (4) Ministry of Finance (various years); (5) International Monetary Fund (2004), and (6) is a residual estimate.

As an example, consider the estimation of the value added payments from the production activities (M_{21}). The factor labor receives income in the form of compensation of employees while capital receives the operating surplus. On the one hand, the total compensation of employees (and also the operating surplus) was obtained directly from the input-output table, for each of the 92 production activities (i.e. industries, or sectors). These were taken as control values. On the other hand, the compensation of employees could be disaggregated into 25 categories of workers (according to the citizenship status, geographical location, ethnicity and education level) for each of the 92 sectors on the basis of the HIS. Because the compensation of employees from the HIS is inconsistent with the totals from the input-output table (which were taken as control values), the estimates based on the HIS were adjusted.

2.4 Data Requirements and Problems

2.4.1 Data requirements

There is no optimal sequence for proceeding in the construction of a SAM. A good starting point, however, is to begin with the production accounts because a SAM is an extension of the input-output table. Not only does the input-output table provide all data for the production account, it also contains most of the other basic data requirements. For instance, it reports the aggregate sectoral values added and the household consumption of commodities, which yield the column sums of matrix M_{21} and the row sums of M_{13} in Table 2.2, respectively. In the present study, we have constructed the Malaysian SAM for 2000, because this is the year for which the most recent input-output table—the major source of data—is available. The input-output table contains 92 industries and was compiled by using a new industrial classification, the Malaysia Standard Industrial Classification (MSIC, see Department of Statistics Malaysia, 2000c). The MSIC follows the latest International Standard Industrial Classification of All Economic Activities (ISIC).

Taking the input-output table as the basis for the construction of the SAM, the main tasks that remain are the disaggregation of primary income by factor types and by household groups. For these purposes, the HIS and the HES are the essential data

sets. The HIS and HES are multi-purpose household surveys that are conducted to gather detailed information on income and expenditures of households, taking demographic characteristics across socio-economic groups into account. The HIS contains labor force characteristics of household members and was mainly used for disaggregating the sectoral factor incomes from production activities (M_{21}) and for the distribution of factor incomes over households (M_{32}). It was also used to estimate the transfer payments to households from the companies (C_{34}), the government (C_{35}), and the rest of the world (C_{37}). A third part where the HIS was employed was the estimation of the details of certain expenditure categories of the households, such as direct taxes (R_{53}), savings (R_{63}), consumption of imported goods (R_{73}) and indirect taxes (R_{93}). The consumption of domestically produced commodities by household groups (i.e. M_{13}) was estimated from the private consumption data in the HES.

A practical issue that arises during the compilation of the household account, is that an appropriate statistical unit needs to be chosen for classifying households according to their socio-economic status. The household head and the main earner are the statistical units that are usually applied (e.g. Lewis and Thorbecke, 1992, or Llop and Manresa, 2004, have used the household head, while Chander et al., 1980, or Keuning and de Ruijter, 1990, have opted for the main earner). In both cases, the incomes of all household members are attributed to a single person. In terms of incomes, it thus makes little difference whether households are classified by household head or by main earner. For other socio-economic characteristics, however, it may make a difference. In particular in employment statistics, the selected statistical unit should—ideally— represent a large proportion of employment. For instance, Chander et al. (1980) prefer to use the main earner because the proportion with an "active employment" status is much larger than for the household head. Also in the present study, we will classify households on the basis of the main earner.

The south-east quadrant of the SAM only includes data at an aggregate level as represented by the scalars S_{ij}. They are with respect to external transactions, savings and inter-institutional transfers, and information was obtained from various sources. For instance, a complete balance of payment account is necessary to provide information on the income flows and transfers between the domestic economy and the

rest of the world, comprising both the current and the capital account. Data for domestic savings and investments were obtained directly from the national account statistics (Department of Statistics Malaysia, 2004; 2006). Other data sources were the Ministry of Finance (various years) and the International Monetary Fund (2004), both of which also provided unpublished material to estimate some of the SAM accounts. For instance, unpublished Ministry of Finance data were used for the government transfers.

2.4.2 Problems related to data

The major problems that arise during the compilation process are due to issues of classification, to inconsistent data and to lacking data. Most of these problems are encountered when assembling the factor, the household and the government accounts. The ultimate cause is that the data that are used to construct the SAM come from different sources. At least two kinds of errors cause differences across sources. First, if data are based on surveys with a coverage of less than 100% of all relevant entities (companies, households, etc.), sampling errors are unavoidable. Second, even data from full surveys (like censuses) will never be free from measurement error. The estimates of many SAM cells rely on a hybrid combination of different information sources and thus contain sampling as well as non-sampling errors (Thorbecke, 2003).

Classification problems were encountered when dealing with the factor and the household accounts. In order to be in line with the United Nations system of classifying economic activities (1993), the Department of Statistics Malaysia adapted its framework for collecting and compiling industrial activities. Starting in 2000, it adopted the MSIC instead of the Malaysia Industrial Classification (MIC) in order to stay close to the latest ISIC. As a consequence, however, classifications had to be made consistent implying that data from surveys that used the MIC had to be reclassified into the MSIC. This applied, for example, to the sectoral compensation of employees because the 2000 input-output table used the MSIC, whereas the HIS used the MIC. Similarly, the consumption of commodities from the HES is also in the MIC classification, whereas private consumption in the input-output table used the MSIC.

For these reclassification purposes, Department of Statistics Malaysia (2004) provided a concordance to reclassify MIC sectors into MSIC sectors.

The HIS provides abundant information for disaggregating household income as well as some expenditure components. However, the aggregate values given in the HIS are generally not consistent with aggregate values from other sources. For instance, the sectoral compensations of employees from the HIS do not match those from the input-output table. This inconsistency is mainly due to differences in the underlying sampling methods. While the HIS uses household-based sampling, input-output tables use establishment-based sampling procedures. We have "solved" this inconsistency problem by using scaling factors (Pyatt and Round, 1984). That is, using the HIS, we calculated—for each sector—the share in the total sectoral compensation, for each of the 25 distinguished groups of employees. Next, for each sector, these shares were multiplied by the total sectoral compensation from the input-output table (which was thus taken as the control value).

Inconsistencies may also occur within an individual account. Due to the principles of double-entry bookkeeping, every receipt must match an expenditure. Therefore aggregate income must be equal to aggregate expenditures. This also holds for separate matrices. Consider, for example, the consumption of commodities in M_{13}. The input-output table reports the row sums, whereas the HIS gives columns (and thus column sums). However, the sum of the row sums is not equal to the sum of the column sums. In our study, we have taken the row sums from the input-output table as control values. In principle, we could have taken the distribution within each row as fixed (reflecting fixed sales patterns for each production sector) and multiply the shares with the given row sums. A consequence would have been that the expenditures of the household categories (i.e. the column sums of M_{13}) would have changed drastically. Alternatively, we could have used the shares within columns, because they reflect the consumption pattern of each household group. In that case, however, the row sums would not have matched the control values. Instead, we have used the classic RAS method for balancing a matrix, given that the row and the column sums are known. In our case, we have taken the row sums from the input-output table and adapted the column sums from the HIS (so as to make sure that the

sum of row sums equals the sum of column sums). The RAS technique has also been applied for balancing other matrices M_{ij} in the SAM.

Finally, lacking data are a common problem in the compilation process, especially when dealing with the government account. A consequence is that some of the data in our SAM were obtained as residual estimates. That is, we have used the equality between the row sum (incomes) of any given account and the column sum (expenditures) of that account. In that case, one piece of information in the corresponding row (or the corresponding column) can be calculated as a residual. For instance, flows of public transfers to companies (i.e. S_{45} in our SAM) have been estimated by taking the difference between government revenues and expenditures.

2.5 Results and Discussion

For reasons of exposition, Appendix 2.1 reports only an aggregated 47×47 version of the SAM for Malaysia, instead of the full 134×134 matrix. Because we would like to focus on issues related to income distribution, we have chosen not to aggregate the factors of production and the households. We have aggregated the production activities from 92 to 10 industries and consolidated the remaining six accounts (for companies, government, capital, the rest of the world and indirect taxes) into a single composite account. The SAM can be sub-divided into the following sub-groups of major accounts: production activities (accounts 1-10); factors of production (accounts 11-37); households (accounts 38-46); and the sum of all other accounts (account 47). The flows are expressed in units of millions of MR.

An important feature of the SAM is that the distribution of the compensation of employees to the different types of households has a diagonal structure as shown by rows 38-46 and columns 11-35. This is a common way to deal with this account and reflects the homogeneity assumption (see e.g. Pyatt and Round, 1984). Accordingly, the compensation of the three types (i.e. low, medium, and high level of education) of rural Malay employees, for example, is entirely destined for rural Malay households. Implicitly, this means that urban (rural) households are assumed to supply only urban (rural) labor, and that all members of a particular household are assumed to be

of the same race. In the next sub-sections, we will point out some important features of the SAM in relation to income distribution.

2.5.1 Distribution of household income

In this section, we focus on the distribution of the household income across ethnic groups. In the SAM in Appendix 2.1, we find that the total household incomes are given in column 48 and rows 38-46. For example, the major earners are the Malays (25.4 billion MR for rural and 40.5 billion MR for urban households) and the Chinese (10.2 billion MR for rural and 47.4 billion MR for urban households). Next, we will link the incomes to the population shares, which will confirm that the distribution of income is far from equal, as mentioned in the introduction.

Table 2.3 summarizes the outcomes for the distribution of income across ethnic groups. Panel A gives in each row the distribution (over household groups) of a particular source of income. For example, the total compensation of employees amounts to 91,311 million MR of which 16.62% are for rural Malay households. The column on the right indicates that employee compensation equals 58.52% of the sum of all household incomes (156,040 million MR).

The table clearly shows the importance of factor incomes in generating household incomes. With an average of 91%, it is the major source of income for households. Splitting the factors, we find that the compensation of employees accounts for 59% of incomes received by households and that the unincorporated business profits (basically due to self-employed activities) accounts for 32% of total household income. A remarkable finding is that the contributions of the components of household incomes are very similar across ethnic groups and location. The shares for the rows compensation of employees, unincorporated business profits and total—in rows 1, 2, and 7, respectively—exhibit only little differences. This also holds for the distributed profits in row 4 (which account for 7% of total household income on average), but to a lesser extent. For example, the contribution of distributed profits is above average for “other” households (both rural and urban) and below average for

urban Indian households.[8] Large differences are found for the pensions and the social benefits from abroad in rows 5 and 6. For example, 65% of all pensions and periodical payments are received by Malay households and 42% of all social benefits from abroad are received by Indian households. Because, together, these two types of income account for only 2% of total household incomes, the differences have little effect on the overall distribution of total household income across household groups. So, our first main finding is that the distribution of household income across groups is very similar for the separate forms of income.

Panel B gives the distribution of the population and of labor (for employees and for non-employees) across household groups. For example, rural Malay households account for 35.37% of the entire population and provide 26.80% of all the employees. The rows 13-15 show the income ratios. Note that the ratios in Panels B-D are normalized such that the (weighted) average ratio for all nine population groups equals one. For example, in row 13 we see that the per capita income in rural Malay households is 46% of the average per capita income in Malaysia. The results in row 13 show that there is a large difference between rural and urban households. Urban households all have above average per capita incomes, while rural households essentially (i.e. except for the small group of others) have below average per capita incomes. The ratios between urban and rural incomes range from 1.43 for Indians, via 1.62 for Chinese, to 2.24 for Malay households. The observation that the income per capita for all ethnic groups is smaller for rural areas than for urban areas, is a common characteristic of a developing country. Typically, most of the industrial and service sectors (which are the most productive) are centered in urban areas.

Large differences also exist between the major ethnic groups, the per capita income for the Chinese being the largest and that for the Malays the smallest. For the rural households, we find that the per capita income of Indians and Chinese households equal 171 and 200 (setting per capita income of rural Malay households equal to 100). For urban households, the differences are smaller: 110 and 145 for

[8] The group of "other" households comprises a dozen ethnic minorities that largely dominate the population in East Malaysia. The distributed profits, turn out to be distributed particularly unequal: no less than 48% go to ethnic Iban.

Indians resp. Chinese households. These figures are in line with the aggregate inequality indicators published by the Economic Planning Unit and mentioned in the Introduction. Note that the income ratios for the groups with other ethnicities (and—to a lesser extent—the group with non-citizens) are exceptionally large, the reasons for which will be discussed later. The major finding here is that the rural Malay households are the largest group and they have the lowest per capita income.

Looking at the ratios between the values in rows 8-10 provides information on the degree of labor participation. For example, observe that the urban Malay households make up for 23% of the population, but provide 21% of the employees and only 15% of non-employees (i.e. essentially self-employed). This indicates that a relatively large (i.e. above average) share of urban Malay households does not participate in labor activities. This might be caused by, for example, relatively many children, retirees, and/or unemployed. In order to quantify this observation, we have divided the population share by the labor share (including both employees and non-employees). Row 12 lists these ratios and note that the average number of persons per laborer in Malaysia (which is 2.45) has been set to unity. The differences are considerable and indicate, for example, that the average urban Chinese laborer feeds 2.2 persons, whereas it is 3.0 for the average urban Malay laborer. The ratios show that Malay and Indian households (both rural and urban) have a labor participation that is below average, while the opposite holds for the Chinese households. The Other and the group of non-citizens take an extreme position in this respect.

Another element in explaining the large income differences is the payment per employee or per non-employee. The income per employee in row 14 shows only small differences across urban ethnic groups. For rural households it appears that the "wage rate" for the Malays is substantially smaller than that of the Indians and Chinese households. The incomes per non-employee (i.e. essentially self-employed) show very large differences. Taking 100 for the Malays again, we find 206 and 563 for the Chinese and Indians self-employed in rural areas, and 98 and 171 in urban areas. It turns out that the Indian self-employed receive much more income per person than the other two groups.

Table 2.3 Distribution of household income, population and labor (%), 2000

			Rural				Urban				Non-citizen	Total	
			Malays	Chinese	Indians	Other	Malays	Chinese	Indians	Other		MR million	% share
A. Sources of incomes													
Factors	Compensation of employees	(1)	16.62	6.59	2.31	2.71	26.48	30.65	6.56	2.36	5.73	91,311	58.52
Factors	Unincorporated business profits	(2)	15.15	6.82	2.78	3.17	23.11	31.69	7.16	2.64	7.48	50,092	32.10
Factors	Sub-total	(3)	16.10	6.67	2.48	2.87	25.29	31.02	6.77	2.46	6.35	141,403	90.62
Transfers	Distributed profits	(4)	16.16	6.15	2.71	3.84	29.35	27.18	4.74	3.46	6.41	10,899	6.98
Transfers	Pensions and periodical payments	(5)	23.26	1.45	2.61	2.09	42.03	14.45	8.58	1.10	4.43	3,702	2.37
Transfers	Social benefits from abroad	(6)	27.88	3.05	26.02	1.65	10.99	0.81	16.40	3.90	9.30	36	0.02
Total		(7)	16.28	6.51	2.50	2.92	25.96	30.35	6.67	2.49	6.31	156,040	100
B. Population and per-capita income													
Population		(8)	35.37	7.49	2.89	2.16	23.28	20.33	5.37	0.93	2.18		
Employee-labor		(9)	26.80	7.56	2.89	5.93	20.90	23.26	5.45	2.59	4.62		
Non-employee-labor		(10)	46.83	10.40	1.54	1.41	14.81	20.69	2.68	0.10	1.54		
Total labor		(11)	32.03	8.30	2.54	4.75	19.31	22.59	4.73	1.94	3.82		
Population per laborer [ratio (8)/(11)]		(12)	1.10	0.90	1.14	0.45	1.21	0.90	1.14	0.48	0.57		
Per-capita income [ratio (7)/(8)]		(13)	0.46	0.87	0.87	1.35	1.11	1.49	1.24	2.67	2.90		
Per-capita employee income [ratio (1)/(9)]		(14)	0.62	0.87	0.80	0.46	1.27	1.32	1.20	0.91	1.24		
Per-capita non-employees income [ratio (2)/(10)]		(15)	0.32	0.66	1.80	2.25	1.56	1.53	2.67	25.65	4.85		
C. Average number of hours worked per week per person													
Employee-labor		(16)	0.93	1.02	1.03	0.96	0.99	1.03	1.04	1.04	1.18		
Non-employee-labor		(17)	0.85	1.08	1.12	0.88	1.05	1.13	1.22	1.08	1.08		
D. Index of remuneration per hours worked per person													
Employee-labor [ratio (14)/(16)]		(18)	0.67	0.86	0.77	0.48	1.28	1.28	1.15	0.87	1.05		
Non-employee-labor [ratio (15)/(17)]		(19)	0.38	0.61	1.60	2.55	1.49	1.35	2.18	23.69	4.51		

Notes: all figures in rows (1)-(11) are in percentages (unless indicated otherwise) and their sum over the nine ethnic groups equals 100. All figures in rows (12)-(19) are given as ratios to the grand average (taken over all Malaysian households).

It should be stressed that the labor data underlying Table 2.3's Panel B are in numbers of persons. It may thus happen that differences across ethnic groups in the remuneration rates are due to a different involvement in part-time and overtime work. For example, if rural Malays would work much more part-time (or less overtime) than rural Chinese and if the hourly wage rate would be the same, then the remuneration per employee would be lower for the rural Malays than for the rural Chinese.

Data on working hours were provided by Department of Statistics Malaysia and were obtained from their labour force survey (Department of Statistics Malaysia, 2001b). Panel C lists the normalized scores again. The average Malaysian employee works 47.3 hours per week and for the average non-employee this is 46.8 hours per week. We see that for the tree major ethnic groups, the Indians work the largest number of hours, the Malays the smallest, and the Chinese take the intermediate position. This result is observed in all four cases, i.e. for employees and for non-employees, in rural and in urban areas. Whereas the differences are small for urban employees (Indians working 5% more hours than Malays), they are quite substantial for rural non-employees (32% difference).

Dividing the indexes for the income per (non-)employee in rows 14 and 15 by the indexes for the working hours per week in rows 16 and 17, provides the indexes for the income per hours worked for employees in row 18 and for non-employees in row 19. Again, the average Malaysian income per hour is set at one. The results provide a more detailed view on the remuneration rates per (non-)employee. For example, the rural Malays income per (non-)employee is extremely low. This is caused by a very low income per hour and by the fact that they work the least number of hours per week. In the same fashion, an urban Indian non-employee earns 2.67 times the amount that an average Malaysian non-employee earns. Partly this is caused because (s)he is working the most hours, which implies that the income per hour worked is "only" 2.18 times the Malaysian average.

Jointly, these three elements (income per hour, working hours per week, and participation of household members) explain the differences in per capita income for the Malays, Chinese, and Indians. First, for rural households we find that the Malays

receive the lowest remuneration rates per hour, have the lowest number of working hours per week and an above average number persons per laborer. The Chinese are doing much better in this respect, they have substantially higher payments per hour, work more hours per week and their share of economically inactive members is relatively low so that the earned income is shared by a relatively smaller number of people. This explains why the per capita income of rural Chinese households is much larger that that of the Malays. The rural Indian non-employees earn by far the most per hour and they work the most hours (of all rural non-employees). The positive effect of the very high income per non-employee is largely offset because the share of Indian self-employed is relatively small and because the participation rate is low (and thus relatively many household members per laborer). This results in a per capita income of rural Indians that is the same as that of rural Chinese.

For urban households, the story is similar. The remuneration rates per hour for Malays are slightly better than for Chinese. However, the combination of the Chinese working more hours per week than the Malays and having a population per laborer ratio that is 25% smaller, causes that the per capita income of the Chinese is 35% larger than that of the Malays. The situation for Indian households is comparable to the Malays, except that their non-employees have very high remuneration rates per hour and work the most hours. Again, this is to a large extent offset by the fact that there are relatively few Indian self-employed people.[9]

2.5.2 Inequality in the labor market

Approximately 60% of total income consists of compensation of employees. Given its importance we will focus in this section on the income per employee (or wage rate) and employment shares. We have already observed that the wage rate differences between urban ethnic groups are relatively small, whereas the wage rates for rural Malay households are substantially smaller than those of the Indian and Chinese rural

[9] The extremely high per capita income for the "Other" group appears to be mainly due to an implausibly high participation rate. We feel that not too much importance should be attributed to this result, which is most probably a consequence of measurement error for a small group of households. It does not affect our quantification of income inequality between the three major ethnic groups in Malaysia.

households. Table 2.4 breaks the wage rate differences up into skill categories. It should be stressed that no information on skill types is available for the non-citizens, who account for 4.62% of all employees. Therefore, they are not included in Table 2.4. For example, 12.57% of all citizen employees belong to rural low-skilled Malay households and they earn 3.74% of the total income earned by employees (excl. non-citizens). Taking the ratio yields that low-skilled rural Malay employees earn a wage rate that is 30% of the average wage rate for a citizen employee.

Of all the citizen employees, 45% are in the rural areas and 55% in the urban areas. Observe that the Malays and the Other have more rural than urban employees, while the opposite holds for the Indians and, in particular, the Chinese. In the urban areas, there are even more Chinese than Malay employees. In general, low-skilled employment is typical for rural areas and high-skilled employment for urban areas. It follows from Table 2.4 that the share of low-skilled employees (within each of the eight ethnic groups) is larger in rural areas than in urban areas. For example, for the rural Malay employees we find that 44.7% is low-skilled and this share is 19.4% for the urban Malay employees.[10] For high-skilled employees it is exactly the other way round, their share (within each group) being smaller in rural areas than in urban areas.[11]

The next observation from Table 2.4 is that the wage rate per employee is lower for rural than for urban employees, although the gap declines if skills increase.[12] Together with the observation that low-skilled labor is dominant in rural areas, this explains the large gap in the overall wage rate—in row 14 of Table 2.3—between rural and urban employees.

[10] The corresponding shares for the other groups are: 57.5% and 38.0% for rural resp. urban Chinese; 54.4% and 32.7% for rural resp. urban Indians; and 65.8% and 44.9% for rural resp. urban Other employees.

[11] For Malays we have 6.2% in rural areas and 14.7% in urban areas, for Chinese: respectively 6.3% and 11.9%, for Indians: 4.0% resp. 10.7%, and for the Other: 3.1% resp. 7.4%.

[12] Information of the number of hours worked per week is —unfortunately— not available. Therefore we cannot calculate an index for the wage rate per hour.

Table 2.4 Distribution of compensation of employees per skill-type, 2000

		Rural				Urban			
		Malays	Chinese	Indians	Other	Malays	Chinese	Indians	Other
Low-skilled employees									
Income shares	(1)	3.74	2.29	0.98	1.11	2.45	6.64	1.38	0.65
Employment shares	(2)	12.57	4.56	1.65	4.09	4.26	9.28	1.87	1.22
Ratio	(3)=(1)/(2)	0.30	0.50	0.59	0.27	0.58	0.72	0.74	0.53
Medium-skilled employees									
Income shares	(4)	9.70	3.11	1.22	1.35	16.00	15.39	3.64	1.36
Employment shares	(5)	13.78	2.87	1.27	1.95	14.44	12.19	3.23	1.29
Ratio	(6)=(4)/(5)	0.70	1.08	0.96	0.69	1.11	1.26	1.13	1.05
High-skilled employees									
Income shares	(7)	4.19	1.60	0.25	0.41	9.63	10.49	1.93	0.49
Employment shares	(8)	1.75	0.50	0.12	0.19	3.22	2.91	0.61	0.20
Ratio	(9)=(7)/(8)	2.39	3.20	2.08	2.16	2.99	3.60	3.16	2.45
Total employment shares	(10)	28.10	7.93	3.03	6.22	21.91	24.39	5.71	2.72

The differences in the wage rates per employee between the ethnic groups are quite consistent across skill-types. In general, we find that the Chinese are paid the highest wage rate, followed by the Indians, then by the Malays, while the Other have the lowest wage rate. The exception is the wage rate for low-skilled Indian employees (both rural and urban). A note of caution seems to be in place when linking the wage rates per skill-type from Table 2.4 to overall wage rates in row 14 of Table 2.3. For example, in Table 2.4 we observe that the wage rate for urban Indian employees is larger than that of the Malay urban employees, for each skill-type. Still, the overall wage rate of the urban Malay employees is larger than that of the urban Indian employees. The reason is that only 19% of the urban Malay employees is low-skilled, while it is 33% in the Indian case.

The next step in unravelling the inequalities in the labor market is by analyzing the differences across industries. The total output of each industry is given in the SAM in Appendix 2.1 in row 48 and columns 1-10. It follows that industry 3 (Manufacturing) is responsible for 55% of the total Malaysian output. However, only 21% of this is paid to factors and only 27% of these factor payments is for labor compensation. In contrast to this, industry 10 (Government services) produces only 4% of the total output in Malaysia, but 60% of its output is for factor payments and no less than 95% of these factor payments are for labor compensation. Despite their different structure, both industries thus account for a comparable share (30% for industry 3 and 24% for industry 10) of the total labor compensation.

Table 2.5 gives the distribution of the labor compensation (in panel A) and the employment (in panel B) across industries and ethnic groups. Taking the ratios of the figures in both panels yields the compensation per employee (or wage rate). From panel B, it follows that industries 1 (Agriculture), 3, 6 (Wholesale, hotels & restaurants), and 10 account for 70% of all employment. One of the most striking differences is between industries 1 and 10, which are quite comparable in terms of output and total factor payments (see Appendix 2.1). In Agriculture, however, 83% of the factor payments go to capital (and thus only 17% to labor), whereas in Government services only 5% is for capital (and 95% for labor). This explains why the

Table 2.5 Percentages of income and employment, and wage rates, by industry (2000)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A. % of income												
Rural	Malays	0.78	0.18	5.47	0.16	1.06	0.86	1.09	0.92	0.22	5.89	16.64
	Chinese	0.72	0.07	2.15	0.01	1.00	0.82	0.54	0.52	0.17	0.59	6.59
	Indians	0.26	0.04	1.08	0.03	0.11	0.10	0.24	0.14	0.02	0.30	2.31
	Other	0.59	0.04	0.44	0.03	0.17	0.13	0.16	0.11	0.07	0.98	2.71
Urban	Malays	0.18	0.36	6.14	0.45	1.26	1.68	2.24	3.27	0.37	10.55	26.51
	Chinese	1.03	0.19	9.37	0.14	4.34	5.29	1.48	4.78	0.77	3.23	30.61
	Indians	0.08	0.08	2.24	0.13	0.39	0.61	0.63	0.94	0.14	1.33	6.56
	Other	0.12	0.05	0.39	0.05	0.24	0.20	0.21	0.21	0.09	0.80	2.36
Non-citizen		0.38	0.30	2.33	0.01	0.65	0.54	0.20	0.44	0.06	0.80	5.72
Total		4.16	1.30	29.60	1.01	9.22	10.24	6.78	11.33	1.91	24.46	100.00
B. % of employment												
Rural	Malays	7.21	0.11	7.74	0.10	1.80	3.40	1.07	0.68	1.46	3.23	26.80
	Chinese	1.39	0.03	1.90	0.03	0.83	1.53	0.31	0.25	1.06	0.23	7.56
	Indians	0.67	0.03	1.21	0.05	0.11	0.24	0.18	0.11	0.14	0.15	2.89
	Other	2.96	0.03	0.78	0.02	0.33	0.48	0.23	0.12	0.41	0.56	5.93
Urban	Malays	0.58	0.12	6.28	0.14	1.36	3.54	1.34	1.61	1.53	4.40	20.90
	Chinese	0.79	0.04	6.00	0.06	2.95	5.97	0.88	1.85	3.65	1.05	23.26
	Indians	0.16	0.03	2.19	0.06	0.29	0.77	0.40	0.55	0.49	0.52	5.45
	Other	0.14	0.03	0.51	0.05	0.29	0.46	0.18	0.16	0.40	0.37	2.59
Non-citizen		1.41	0.05	1.00	0.44	0.14	0.64	0.39	0.05	0.45	0.04	4.63
Total		15.32	0.47	27.61	0.96	8.10	17.04	4.98	5.38	9.59	10.56	100.00
C. Wage rates (A/B)												
Rural	Malays	0.11	1.70	0.71	1.51	0.59	0.25	1.02	1.35	0.15	1.83	0.62
	Chinese	0.52	2.21	1.13	0.43	1.20	0.54	1.74	2.06	0.16	2.51	0.87
	Indians	0.39	1.38	0.89	0.55	1.02	0.43	1.32	1.20	0.15	1.99	0.80
	Other	0.20	1.09	0.56	1.40	0.51	0.27	0.68	0.89	0.18	1.74	0.46
Urban	Malays	0.31	2.91	0.98	3.19	0.93	0.48	1.68	2.03	0.24	2.40	1.27
	Chinese	1.30	4.46	1.56	2.52	1.47	0.89	1.68	2.58	0.21	3.07	1.32
	Indians	0.53	3.12	1.02	2.08	1.35	0.80	1.56	1.71	0.28	2.55	1.20
	Other	0.83	1.59	0.77	1.12	0.83	0.43	1.15	1.35	0.22	2.17	0.91
Non-citizen		0.27	5.46	2.33	0.02	4.61	0.85	0.52	9.35	0.14	18.79	1.24
Total		0.27	2.73	1.07	1.06	1.14	0.60	1.36	2.10	0.20	2.32	1.00

Notes: (1) Agriculture; (2) Mining & quarrying; (3) Manufacturing; (4) Electricity, gas & water; (5) Building & construction; (6) Wholesale, hotels & restaurants; (7) Transport & communication; (8) Financial, real estate & business services; (9) Other private services; (10) Government services; (11) Total economy.

share in total labor compensation in panel A of Table 5 for industry 10 is almost six times as large as the share for industry 1. In addition, the employment in industry 1 is 45% larger than in industry 10. Together this explains why the average wage rate in industry 10 is more than eight times as large as the one in industry 1.

The main observations from Table 2.5 are: that there are large differences in the average wage rates across industries (the ratio between the largest and the smallest being more than 10!); that there are—as already noted before—substantial differences between rural and urban wages; and that in almost all cases the wage rate for Chinese is considerably larger than that for Malays and Indians.

Focusing on the four industries (1, 3, 6, 10) that are most important in terms of employment, we see that the rural Malays, the urban Malays and the urban Chinese in these four industries make up for 50% of all employment. Agriculture (industry 1) is dominated by rural Malays and their wage rate is extremely low (11% of the overall average wage rate). Also Government services (industry 10) are dominated by the Malays, but the wage rate in this industry is more than twice the overall average. The three groups have comparable shares of employment in Manufacturing (industry 3), but the wage rate of the urban Chinese is 59% and 120% larger than that of the urban resp. rural Malays. In Wholesale, hotels & restaurants (industry 6), the urban Chinese hold the largest employment share (35%, in comparison to 20% for rural and for urban Malays). The average wage rate in this industry is substantially lower than the overall rate, but for the urban Chinese it is 85% and 256% larger than for urban resp. rural Malays. These observations may help to sketch the overall picture of the income distribution differences in Malaysia.

In addition there are some “extreme” results that require explanation. For example, industries 2 (Mining & quarrying) and 4 (Electricity, gas & water) are characterized by large capital intensities. Of their factor payments, no less than, respectively, 97% and 91% is for capital. However, of the workers that are employed in these industries, an unexpectedly large part (12% in industry 2, 46% in industry 4) is non-citizen. Also observe that the largest wage rates—up to 19 times the overall average wage rate—are for non-citizens. Such extreme wage rates are observed in

industries with very few employed non-citizens (0.1% of total employment or less), i.e. industries 2, 5, 8, and 10. In many cases, this refers to a relatively small number of foreign employees (e.g. advisers, technical experts) who are paid salaries that are at least comparable to what they might have earned in their home country. For Malaysian standards, however, such salaries are massive. In the industries with relatively large shares of non-citizen labor (Agriculture, 1; Wholesale, hotels & restaurants, 6), the foreign workers earn more or less the average wage rate in that industry. Industry 3 (Manufacturing) clearly is a mix of the two types, many foreign workers earning an average wage rate but also a considerable group of foreign "experts" with very high salaries.

The most extreme result is the wage rate (0.02) of the non-citizens in industry 4. There are good reasons that make a low wage rate plausible. For instance, almost half of the employees in this sector is non-citizen and many of them will receive their salary from headquarters abroad. Yet, the extremity of this outcome is difficult to explain. It should be stressed that part of the SAM is estimated using information from different sources. In particular when the share (e.g. in income, or population, or employment) is small for a certain cell in the SAM, the percentage estimation error may become relatively large. At the detailed level of individual cells, one should therefore realize that taking ratios in such cases may produce outliers that cannot be given a reasonable explanation.

2.5.3 Summary of most important findings

The general conclusion from the previous subsections is that there are six main causes for the inequality in the income per capita across ethnic groups. First, the wage rates per hour in rural areas are substantially lower than in urban areas. Second, the number of hours worked per (non-)employee is smaller in rural areas than in urban areas. This explains why the gap in income per (non-)employee between rural and urban areas is even larger. Third, the Malays (and the Other) have a relatively large share of their employment in rural areas, whereas the Chinese (and the Indians) mainly work in urban areas where most of the commercial and industrial activities take place. Fourth, in general, the wage rate per employee for the Other is lower than

for the Malays, which is lower than for the Indians, which is lower than for the Chinese. These four factors explain why the income earned by Chinese employees is the largest. Fifth, the Other (and to some extent also the Indian) compensate their low income for employees by income for non-employees (i.e. self-employed). Sixth, the Malays and Indians have a relatively large ratio for the population over labor. This indicates that there are relatively many persons in a household per worker (either employed or self-employed), which means that the income has to be divided over relatively many people.

2.6 A Comparison of the Income Distributions in 1970 and 2000

Given the availability of a SAM for Malaysia for 1970 (see Pyatt and Round, 1984), this section discusses the changes in income distribution between 1970 and 2000. In line with Table 2.3, Table 2.6 summarizes the outcomes for the distribution of income in 1970 and their changes across ethnic groups. Rows 1-5 give the share of each ethnic group in a certain income component and in the total income. For example, the rural Malays earned 22% of the compensation of employees in 1970. The numbers in parentheses indicate the change in the share between 1970 and 2000. For rural Malays, their share in the compensation of employees has declined by 5%-points in 2000 (so in 2000 their share was 17.63%). The sum over the ethnic groups equals 100 for the shares and 0 for the change in shares. The final column on the right shows the share of each source of income in total income. For example, the compensation of employees constituted 49% of total income, which increased by 10% in 2000. Rows 6 and 7 give the shares in 1970 and the changes between 1970-2000 in population and in labor across ethnic groups. Rows 8-10 show the participation rates, the per capita incomes and the remuneration rates, respectively. Numbers in parentheses show ratios between 2000 and 1970. For example, the per capita income of rural Malays was 60% of the average per capita income in Malaysia in 1970 and was only 80% of that (i.e. 48%) in 2000.

Three important aspects about Table 2.6 should be kept in mind while discussing the findings, because the data for 1970 are not entirely comparable to those for 2000. First, the distinction of ethnic groups in 1970 was only available for

West Malaysia, but not for East Malaysia. In 1970, the income and population in West Malaysia was 84.35% and 84.41% of the total, respectively. In order to compare the two years, we have assumed that the ethnic distribution (for income, population and labor) in 1970 for West Malaysia also applies to East Malaysia. Second, in the distributions of income, population and labor in 1970, only households of citizens were taken into account. For our comparison, we thus have left out the citizens from our 2000 data (similar to what we have done for Table 2.4). This adjustment implies that the outcomes that may be obtained from Table 2.6 differ slightly from those reported in Table 2.3. Finally, several types of information were lacking for 1970, so that a comparison in each and every detail is not possible. For example, the disaggregation of labor into employees and non-employees, the distinction between skill groups, and the lengths of the working weeks were not available for 1970.[13]

2.6.1 The situation in 1970

Before examining changes over time, we focus on the distribution in 1970. 89% of total income in Malaysia was due the compensation of employees (49%) and the unincorporated business profits (40%). Income from self-employment was an important source of income in rural areas and for urban Chinese. Note that 76% of the population was living in rural areas (with 72% of all labor) and that the urban population was dominated by the Chinese. The total income of the rural households was only 52%, which implies that they had an income per capita that was well below average (except for the small group of other ethnic minorities). The opposite obviously held for the urban households where 24% of the population had 48% of the total income. The ratios of urban to rural income per capita were 2.78 for Malays, 2.42 for Chinese and 2.56 for Indians. The explanation for these inequalities is that the

[13]Due to normalizing all numbers in Table 2.6 to averages for the grand average over Malaysian households, complicated and data-intensive deflation procedures are not needed to compare degrees of inequality between 1970 and 2000. If, however, trends in inequality regarding purchasing power should be our main point of interest, SAMs expressed in prices for a common year would be needed. Prices for products mainly consumed by poor households (or households with a specific ethnic background) might have developed differently from prices of products predominantly bought by richer households. We consider such an analysis as beyond the scope of this chapter.

Table 2.6 Distribution of household income, population and labor in 1970, and the comparison with 2000

		Rural				Urban				Total
		Malays	Chinese	Indians	Other	Malays	Chinese	Indians	Other	
A. Sources of incomes										
Compensation of employees	(1)	22.40	15.08	7.86	1.34	16.00	27.17	6.24	3.91	48.87
		(-4.77)	(-8.08)	(-5.41)	(1.53)	(12.09)	(5.34)	(0.71)	(-1.41)	(10.01)
Unincorporated business profits	(2)	36.15	20.67	3.61	0.32	5.22	26.89	6.09	1.05	40.03
		(-19.77)	(-13.30)	(-0.60)	(3.11)	(19.76)	(7.36)	(1.65)	(1.80)	(-8.34)
Sub-total	(3)=(1)+(2)	28.59	17.59	5.95	0.88	11.15	27.04	6.17	2.62	88.90
		(-11.40)	(-10.47)	(-3.30)	(2.19)	(15.85)	(6.08)	(1.05)	(0.00)	(1.67)
Transfers	(4)	20.72	19.58	3.23	0.10	12.07	40.21	3.42	0.67	11.10
		(-1.60)	(-14.32)	(-0.31)	(3.51)	(22.48)	(-14.81)	(2.68)	(2.38)	(-1.67)
Total	(5)=(3)+(4)	27.72	17.82	5.65	0.79	11.25	28.51	5.87	2.41	100
		(-10.34)	(-10.86)	(-2.97)	(2.32)	(16.46)	(3.89)	(1.25)	(0.26)	(0.00)
B. Population and per-capita income										
Population	(6)	46.28	21.39	7.54	0.53	6.72	14.21	3.06	0.27	
		(-10.13)	(-13.73)	(-4.59)	(1.67)	(17.08)	(6.57)	(2.43)	(0.69)	
Labor	(7)	44.59)	19.86	6.87	0.58	7.00	17.28	3.49	0.32	
		(-11.30)	(-11.24)	(-4.23)	(4.36)	(13.08)	(6.21)	(1.42)	(1.69)	
Population per laborer [ratio (6)/(7)]	(8)	1.04	1.08	1.10	0.92	0.96	0.82	0.88	0.83	
		(1.05)	(0.82)	(1.02)	(0.49)	(1.24)	(1.08)	(1.28)	(0.57)	
Per-capita income [ratio (5)/(6)]	(9)	0.60	0.83	0.75	1.48	1.67	2.01	1.92	9.02	
		(0.80)	(1.09)	(1.21)	(0.95)	(0.70)	(0.78)	(0.68)	(0.31)	
Per-capita labor income [ratio (3)/(7)]	(10)	0.64	0.89	0.87	1.51	1.59	1.57	1.77	8.12	
		(0.81)	(0.93)	(1.16)	(0.41)	(0.84)	(0.90)	(0.83)	(0.16)	

Notes: Numbers in parentheses indicate the change over time as measured in 2000. In rows (1)-(7) they give the differences between the values in 2000 and in 1970. In rows (8)-(10), they give the ratios between the values in 2000 and in 1970.

remuneration rates and the rates with population per laborer were both above average for urban households and below average for rural households.

For the distribution among major ethnic groups, we observe that the per capita income was the lowest for the Malays, the largest for the Chinese, with the Indians in between. Setting the per capita income of the rural Malays at 100, the income of rural Chinese was 138 and of rural Indians 125. For urban households, the differences were smaller, 120 for Chinese and 115 for Indians (setting the urban Malays at 100). The low per capita income for the rural Malays is mainly explained by their low remuneration rate (even if their labor participation rate was larger for rural Malays than for Chinese and Indians). The indexes for Chinese and Indian remuneration rates were 139 and 136 (setting rural Malays at 100). Note that the rural Indian remuneration rate in row 10 was comparable to that of the Chinese, but their per capita income in row 9 was much lower than that of the Chinese. This was caused by the fact that rural Indians obtain very little income from transfers.

For urban households, the remuneration rates were very comparable, with indexes of 98 for Chinese and 111 for Indians (with urban Malays set at 100). However, the labour participation rates differed markedly, indicating that the number of non-participating household members was larger for the rural Malays than for the Chinese and the Indians. Further, in explaining the differences in per capita income it should pointed out that the urban Chinese received a very large part of the transfers.

2.6.2 The changes between 1970 and 2000

Between 1970 and 2000, significant shifts in population and labor have been observed. The share of Malays has increased by 7%-points which matches the decrease in the share of the Chinese and the share of the Indians has decreased by 2%-points which equals to increase in the share of the Other. Also a drastic shift has taken place in the distribution of population and labor over rural and urban areas. Whereas 76% of the population and 72% of the labor was in rural areas in 1970, both shares have decreased to 49% in 2000. This tendency to concentrate population and labor in urbanized areas has mainly been driven by the shifts in economic structure,

i.e. the transition from agricultural (essentially rural) to industrial (essentially urban) activities. The higher wages paid in the urban economic activities caused a migration from rural to urban areas. For example, in 1970, 60% of all employment was in the agricultural sector and only 10% in the manufacturing sector (see Fernandez et al., 1975). In 2000, only 15% of all employment was in the agricultural sector and 28% in the manufacturing sector (see Table 2.5).

The major shift of labor covers another shift that has occurred between 1970 and 2000. The last column in Table 2.6 shows that the share of compensation of employees has risen to 59% (an increase by 10%-points) and the unincorporated business profits have fallen to 32% (a reduction of 8%-points). Although we have no detailed data, this shift is caused (at least to a very large extent) by a shift from self-employment to employment.

Another interesting observation is with respect to income gaps between the ethnic groups. For rural households, the indexes of per capita income of Chinese and Indians (setting the per capita income of rural Malays at 100) rose from 138 and 125 in 1970 to 190 and 188 in 2000. This indicates that the gap of the Chinese and Indians with the Malays has substantially widened, and that the gap between the Chinese and the Indians has been closed. The explanation is that the remuneration rate has substantially decreased for the Malays, slightly decreased for the Chinese, and increased for the Indians. At the same time, the population per laborer ratio has increased slightly for the Malays, substantially decreased for the Chinese, and remained more or less the same for the Indians. Together, this implies for the income per capita that the Chinese and Indians have gained over time when compared to the Malays and that the Indians have gained when compared to the Chinese.

For the per capita income of urban households, the index for Chinese increased from 120 to 134 (i.e. a small widening of the gap with the Malays), but the index for the Indians slightly decreased from 115 to 112. Note that the small gap between urban Chinese and Indians in 1970 has considerably grown. Both the Malays and the Indians exhibited a similar decline in their remuneration rates and a similar increase of the population per laborer ratio. The Chinese remuneration rate declined less and

the population per laborer ratio increased considerably less. This implies that the Chinese have gained over time, when compared to the Malays and the Indians.

From the figures in rows 5 and 6 of Table 2.6, it also follows that the gap between urban and rural incomes has substantially declined. Let the Malaysian average per capita income be set equal to 100. In 1970, the ratio between average urban per capita income (198) and average rural per capita income (69) was 2.88. In 2000, the average per capita incomes were 137 for urban and 62 for rural areas, and their ratio was 2.23, which is reduction of 23%.

A general conclusion drawn from the discussion above is that population and labor have shifted from rural to urban areas between 1970 and 2000. This has improved (i.e. reduced) the large gap in per capita income between rural and urban households. At the same time, however, it has increased the existing gaps in per capita income between the ethnic groups. In particular the position of the Malays has been further deteriorated.

2.7 Concluding Remarks

In this chapter we have discussed the distribution of income across ethnic groups in the rural and urban areas of Malaysia in 2000, using a SAM framework. The income inequality across ethnic groups was largely explained by the inequality in the compensation of employees. Analyzing the employment structure indicated that the unequal distribution of labor compensation was mainly due to the inequality in the employment shares and the inequality in the wage rates. For two largest groups (i.e. Malays and Chinese), we found that (*i*) the Malays are dominant in the rural areas and both groups are of a comparable size in urban areas, (*ii*) the rural wage rates per hour are lower than the urban wage rates, (*iii*) the rural wage rates per hour for the Malays are lower than those for Chinese, the urban wage rates per hour are the same, (*iv*) Chinese employees work more hours per week than Malays, so that that both the rural and urban wage rates per employee are larger for Chinese than for Malays, and (*v*) the population per laborer is considerably larger for Malays than for Chinese, implying that a single Malay employee's compensation has "to feed" more persons than a single

Chinese employee's compensation has. The wage rate differences (rural versus urban, and Malays versus Chinese) were consistently found in all production sectors. Because almost 60% of all household income is obtained from paid employment, it should be focal in overcoming ethnic income inequality.

The comparison between 1970 and 2000 showed that the inequality in per capita income between rural and urban areas has declined. This was caused by the fact that (*i*) the per capita income in urban areas decreased (when compared to the overall national average), and (*ii*) the per capita income in rural areas increased, except for the Malays. Although the income gap between rural and urban Malaysia has become smaller over time, the situation for the rural Malays (in comparison with the average citizen) has seriously worsened between 1970 and 2000. Despite the fact that a major shift has taken place from rural to urban areas in terms of population and production, the rural Malays still account for 35% of the population in 2000. Our findings suggest that rural development might be a key strategy for achieving equitable distribution.

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Appendix

Appendix 2.1 Disaggregated SAM for Malaysia, 2000 (MR million)

		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11-37**
Agriculture, livestock, forestry & fishery	**1**	3,335	0	16,468	0	34	2,113	17	80	250	8	0
Mining & quarrying	**2**	4	523	12,990	0	1,436	5	0	47	41	1	0
Manufacturing	**3**	5,771	1,097	91,410	1,938	12,629	4,977	5,856	2,303	1,002	2,725	0
Electricity, gas & water	**4**	145	85	8,059	909	192	1,655	537	1,005	221	803	0
Buildings & constructions	**5**	74	98	1,400	91	196	667	117	354	189	233	0
Wholesale & trade and hotel & restaurant	**6**	1,325	407	31,052	487	2,622	3,030	3,034	1,304	461	1,076	0
Transport & communications	**7**	322	592	5,364	133	1,011	1,784	5,022	2,895	287	911	0
Financial, real estate & business services	**8**	276	738	8,018	1,427	2,737	7,038	4,527	15,621	703	2,348	0
Other services	**9**	74	38	185	25	62	255	412	197	511	405	0
Government services	**10**	19	13	5	40	10	1	2	16	22	411	0
Factors	**11-37**	23,068	37,753	101,797	10,696	13,129	41,799	19,793	48,901	4,955	23,737	0
Households	**38-46**	0	0	0	0	0	0	0	0	0	0	141,404
Sum of other accounts	**47**	3,139	4,515	218,558	1,635	11,034	9,927	12,727	9,869	1,816	6,637	190,735
TOTAL	**48**	**37,552**	**43,858**	**495,306**	**17,380**	**45,091**	**73,252**	**52,044**	**82,592**	**10,457**	**39,296**	**332,139**

		38	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Agriculture	**1**	1,857	605	266	235	1,828	1,895	531	145	308	7,577	**37,552**
Mining & quarrying	**2**	0	0	0	0	0	0	0	0	0	28,811	**43,858**
Manufacturing	**3**	10,158	1,781	795	948	11,693	9,514	2,494	659	922	326,635	**495,306**
Electricity, gas & water	**4**	212	423	15	416	394	1,722	19	412	154	5	**17,380**
Buildings & constructions	**5**	13	6	0	52	61	165	1	83	0	41,293	**45,091**
Wholesale hotel & restaurant	**6**	2,533	1,197	586	119	4,072	5,579	1,314	144	826	12,085	**73,252**
Transport & communications	**7**	4,352	134	5	146	4,088	2,935	950	162	555	20,395	**52,044**
Financial, real estate & business services	**8**	2,190	2,293	327	1,992	4,271	10,317	1,366	1,545	995	13,863	**82,592**
Other services	**9**	761	530	115	77	1,211	2,591	330	62	331	2,284	**10,457**
Government services	**10**	694	380	183	44	1,143	1,730	517	70	40	33,955	**39,296**
Factors	**11-37**	0	0	0	0	0	0	0	0	0	8,510	**332,139**
Rural - Malays	**38**	0	0	0	0	0	0	0	0	0	2,633	**25,396**
Rural - Chinese	**39**	0	0	0	0	0	0	0	0	0	725	**10,161**
Rural - Indians	**40**	0	0	0	0	0	0	0	0	0	402	**3,907**
Rural - Other	**41**	0	0	0	0	0	0	0	0	0	496	**4,554**
Urban - Malay	**42**	0	0	0	0	0	0	0	0	0	4,759	**40,514**
Urban - Chinese	**43**	0	0	0	0	0	0	0	0	0	3,497	**47,360**
Urban - Indians	**44**	0	0	0	0	0	0	0	0	0	840	**10,412**
Urban - Other	**45**	0	0	0	0	0	0	0	0	0	419	**3,892**
Non-citizen	**46**	0	0	0	0	0	0	0	0	0	865	**9,844**
Sum of other accounts	**47**	2,626	2,812	1,616	527	11,752	10,913	2,889	609	5,713	294,236	**804,286**
TOTAL	**48**	**25,396**	**10,161**	**3,907**	**4,554**	**40,514**	**47,360**	**10,412**	**3,892**	**9,844**	**804,286**	**2,189,293**

Appendix 2.1 Disaggregated SAM for Malaysia, 2000 (MR million), continued

		1	2	3	4	5	6	7	8	9	10	11-46	47	48
Labor-Rural-Malays-Low	**11**	446	45	1,225	37	336	230	241	127	47	519	0	56	**3,310**
Labor-Rural-Malays-Medium	**12**	255	49	3,396	98	448	522	625	356	126	2,571	0	141	**8,588**
Labor-Rural-Malays-High	**13**	19	72	426	11	195	41	142	369	31	2,344	0	60	**3,712**
Labor-Rural-Chinese-Low	**14**	416	27	513	8	483	230	166	50	44	50	0	37	**2,024**
Labor-Rural-Chinese-Medium	**15**	240	34	1,046	5	298	436	174	161	91	215	0	51	**2,749**
Labor-Rural-Chinese-High	**16**	13	-	426	-	140	90	155	271	24	277	0	26	**1,421**
Labor-Rural-Indians-Low	**17**	179	11	425	6	40	31	75	42	5	40	0	15	**868**
Labor-Rural-Indians-Medium	**18**	65	16	505	16	40	57	120	65	14	165	0	19	**1,080**
Labor-Rural-Indians-High	**19**	-	7	65	5	21	5	26	21	-	71	0	4	**224**
Labor-Rural-Other-Low	**20**	378	13	177	7	92	50	67	30	23	134	0	15	**986**
Labor-Rural-Other-Medium	**21**	167	22	216	18	55	66	73	54	38	470	0	19	**1,198**
Labor-Rural-Other-High	**22**	-	-	13	-	6	5	5	16	7	302	0	6	**359**
Labor-Urban-Malays-Low	**23**	72	20	720	43	250	222	201	131	33	443	0	37	**2,173**
Labor-Urban-Malays-Medium	**24**	67	148	3,980	268	508	1,089	1,287	1,368	253	4,978	0	232	**14,178**
Labor-Urban-Malays-High	**25**	27	163	968	106	408	243	580	1,515	53	4,316	0	147	**8,527**
Labor-Urban-Chinese-Low	**26**	325	30	1,731	26	1,521	1,322	339	185	193	87	0	119	**5,878**
Labor-Urban-Chinese-Medium	**27**	448	33	4,222	84	1,682	2,816	743	1,823	396	1,119	0	261	**13,626**
Labor-Urban-Chinese-High	**28**	176	109	2,694	24	798	743	279	2,404	122	1,776	0	164	**9,291**
Labor-Urban-Indians-Low	**29**	43	8	556	11	99	116	169	106	27	65	0	21	**1,222**
Labor-Urban-Indians-Medium	**30**	31	34	1,283	96	119	405	295	361	79	463	0	56	**3,223**
Labor-Urban-Indians-High	**31**	2	34	227	10	141	44	113	398	19	697	0	30	**1,714**
Labor-Urban-Other-Low	**32**	39	8	130	5	103	71	54	38	20	100	0	10	**579**
Labor-Urban-Other-Medium	**33**	21	33	199	34	112	103	96	108	47	430	0	21	**1,204**
Labor-Urban-Other-High	**34**	50	4	32	9	9	10	42	48	14	206	0	7	**430**
Labor-Non-citizen	**35**	355	275	2,146	10	603	503	188	409	56	734	0	101	**5,380**
Capital-Unincorporated business profit	**36**	4,084	7,337	15,812	2,073	982	6,868	2,875	8,162	678	247	0	1,455	**50,572**
Capital-Corporate business capital	**37**	15,150	27,219	58,664	7,689	3,642	25,480	10,665	30,282	2,515	918	0	5,398	**187,623**

Appendix 2.1 Disaggregated SAM for Malaysia, 2000 (MR million), continued

		11	12	13	14	15	16	17	18	19	20	21	22	23	24
Production activities	**1-10**	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Factors	**11-37**	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rural - Malays	**38**	3,217	8,348	3,608	0	0	0	0	0	0	0	0	0	0	0
Rural - Chinese	**39**	0	0	0	1,967	2,672	1,381	0	0	0	0	0	0	0	0
Rural - Indians	**40**	0	0	0	0	0	0	844	1,050	217	0	0	0	0	0
Rural - Other	**41**	0	0	0	0	0	0	0	0	0	958	1,164	349	0	0
Urban - Malays	**42**	0	0	0	0	0	0	0	0	0	0	0	0	2,112	13,780
Urban - Chinese	**43**	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Urban - Indians	**44**	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Urban - Other	**45**	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-citizen	**46**	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sum of other accounts	**47**	93	241	104	57	77	40	24	30	6	28	34	10	61	397
TOTAL	**48**	**3,310**	**8,588**	**3,712**	**2,024**	**2,749**	**1,421**	**868**	**1,080**	**224**	**986**	**1,198**	**359**	**2,173**	**14,178**

		25	26	27	28	29	30	31	32	33	34	35	36	37	
Production activities	**1-10**	0	0	0	0	0	0	0	0	0	0	0	0	0	
Factors	**11-37**	0	0	0	0	0	0	0	0	0	0	0	0	0	
Rural - Malays	**38**	0	0	0	0	0	0	0	0	0	0	0	7,591	0	
Rural - Chinese	**39**	0	0	0	0	0	0	0	0	0	0	0	3,415	0	
Rural - Indians	**40**	0	0	0	0	0	0	0	0	0	0	0	1,394	0	
Rural - Other	**41**	0	0	0	0	0	0	0	0	0	0	0	1,586	0	
Urban - Malays	**42**	8,288	0	0	0	0	0	0	0	0	0	0	11,574	0	
Urban - Chinese	**43**	0	5,713	13,244	9,031	0	0	0	0	0	0	0	15,875	0	
Urban - Indians	**44**	0	0	0	0	1,187	3,133	1,666	0	0	0	0	3,586	0	
Urban - Other	**45**	0	0	0	0	0	0	0	563	1,170	418	0	1,322	0	
Non-citizen	**46**	0	0	0	0	0	0	0	0	0	0	5,229	3,749	0	
Sum of other accounts	**47**	239	165	382	260	34	90	48	16	34	12	151	480	187,623	
TOTAL	**48**	**8,527**	**5,878**	**13,626**	**9,291**	**1,222**	**3,223**	**1,714**	**579**	**1,204**	**430**	**5,380**	**50,572**	**187,623**	